AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. This listing of claims replaces all prior versions and listings of claims in the application. Listing of claims:

1. (Currently Amended) A magnetic detecting element comprising:

a multilayer film comprising a pair of first antiferromagnetic ~~layer~~layers, a pinned magnetic layer, a nonmagnetic material layer and a free magnetic layer, which are laminated in that order on a substrate; and

a pair of magnetization control ~~layer~~ layers for controlling magnetization of the free magnetic layer, wherein the pair of magnetization control layers has a predetermined space in the track width direction which faces the free magnetic layer,

wherein the pinned magnetic layer comprises a first magnetic layer extending in a track width direction in contact with the pair of first antiferromagnetic ~~layer~~layers, a second magnetic layer facing the first magnetic layer in a thickness direction, and a nonmagnetic intermediate layer interposed between the first and second magnetic layers, magnetizations of the first and second magnetic layers being antiparallel to each other;

the pair of first antiferromagnetic ~~layer~~ layers has a predetermined space in the track width direction so that the pair of first antiferromagnetic ~~layer~~ layers is in contact with both side portions of the first magnetic layer in the thickness direction; ~~and~~

an electric resistance in the space changes in relation to a magnetization direction of the free magnetic layer and a magnetization direction of the second magnetic layer;

wherein a minimum dimension of the space between the pair of magnetization control layers is the same as or smaller than a minimum dimension of the predetermined space in the track width direction of the pair of first antiferrromagnetic layers.

2. (Currently Amended) The magnetic detecting element according to claim 1, wherein the multilayer film comprises a free magnetic layer, a nonmagnetic material layer, a pinned magnetic layer and a pair of first antiferromagnetic ~~layer~~layers, which

are laminated in that order from below, and the pair of magnetization control ~~layer~~ layers comprises a pair of second antiferromagnetic ~~layer~~ layers provided below the free magnetic layer to have a predetermined space in the track width direction so that the pair of magnetization control ~~layer is~~ layers are in contact with bottoms of both side portions of the free magnetic layer, the pair of first antiferromagnetic ~~layer~~ layers being in contact with tops of both side portions of the first magnetic layer constituting the pinned magnetic layer.

3. (Currently Amended) The magnetic detecting element according to claim ~~2~~1, wherein the pair of magnetization control ~~layer~~ layers comprise~~s~~ permanent-magnet layers in direct contact with both side portions of the free magnetic layer.

4. (Currently Amended) The magnetic detecting element according to claim 2, wherein assuming that a minimum dimension of the space provided in the pair of first antiferromagnetic ~~layer~~ layers in the track width direction is WP, and a minimum dimension of the space provided in the pair of magnetization control ~~layer~~layers in the track width direction is Wf1, Wf1 is the same as or smaller than WP.

5. (Currently Amended) The magnetic detecting element according to claim 1, wherein the multilayer film comprises a free magnetic layer, a nonmagnetic material layer, a pinned magnetic layer and a pair of first antiferromagnetic ~~layer~~layers, which are laminated in that order from below, the pair of magnetization control ~~layer~~ layers comprise~~s~~ permanent-magnet layers provided on both sides of at least the free magnetic layer and the nonmagnetic layer in the track width direction, the pinned magnetic layer is disposed on the nonmagnetic material layer to partially or entirely extend from the nonmagnetic layer to the permanent-magnet layers, and the pair of first antiferromagnetic ~~layer~~ layers ~~is~~ are provided in contact with the both side portions of the first magnetic layer constituting the pinned magnetic layer.

6. (Original) The magnetic detecting element according to claim 5, wherein both side regions comprising the respective permanent-magnet layers are disposed on both sides of at least the free magnetic layer and the nonmagnetic material layer in the track

width direction, and the pinned magnetic layer is provided on the nonmagnetic material layer to extend from the nonmagnetic material layer to both side regions of the element.

7. (Original) The magnetic detecting element according to claim 5, wherein both side regions comprising the respective permanent-magnet layers are disposed on both sides of at least the free magnetic layer, the nonmagnetic material layer and the second magnetic layer and nonmagnetic intermediate layer constituting the pinned magnetic layer in the track width direction, and the first magnetic layer constituting the pinned magnetic layer is provided on the nonmagnetic intermediate layer to extend from the nonmagnetic intermediate layer to both side regions of the element.

8. (Currently Amended) The magnetic detecting element according to claim 5, wherein assuming that a minimum dimension of the space provided in the pair of first antiferromagnetic ~~layer~~ layers in the track width direction is WP, and a minimum width dimension of the free magnetic layer in the track width direction is Wf2, Wf2 is the same as or smaller than WP.

9. (Currently Amended) The magnetic detecting element according to claim 1, wherein the multilayer film comprises a pair of first antiferromagnetic ~~layer~~layers, a pinned magnetic layer, a nonmagnetic material layer, and a free magnetic layer, which are laminated in that order from below, and the pair of first antiferromagnetic ~~layer~~ layers ~~is~~ are provided with a predetermined space in the track width direction so that the pair of first antiferromagnetic ~~layer~~ layers ~~is~~ are in contact with bottoms of both side portions of the first magnetic layer in the track width direction.

10. (Currently Amended) The magnetic detecting element according to claim 9, wherein the substrate provided below the pair of first antiferromagnetic ~~layer has~~layers have recessed portions provided in both side portions in the track width direction to have a predetermined depth, the pair of first antiferromagnetic ~~layer~~ layers being disposed in the recessed portions with the predetermined space in the track width direction.

11. (Currently Amended) The magnetic detecting element according to claim 9, wherein the pair of magnetization control ~~layer~~ layers comprises a pair of second antiferromagnetic ~~layer~~ layers provided on the free magnetic layer to make contact with both side portions of the free magnetic layer and have a predetermined space in the track width direction.

12. (Currently Amended) The magnetic detecting element according to claim 11, wherein assuming that a minimum dimension of the space provided in the pair of first antiferromagnetic ~~layer~~ layers in the track width direction is WP, and a minimum dimension of the space provided in the pair of magnetization control ~~layer~~ layers in the track width direction is Wf3, Wf3 is the same as or smaller than WP.

13. (Previously Presented) The magnetic detecting element according to claim 9, wherein permanent-magnet layers each serving as the magnetization control layer are provided on both sides of the free magnetic layer in the track width direction so that bottoms of the permanent-magnet layers are positioned above at least the pinned magnetic layer.

14. (Previously Presented) The magnetic detecting element according to claim 13, wherein assuming that a minimum dimension of the space provided in the first antiferromagnetic layer in the track width direction is WP, and a minimum width dimension of the free magnetic layer in the track width direction is Wf4, Wf4 is the same as or smaller than WP.

15. (Original) The magnetic detecting element according to claim 4, wherein the minimum dimension WP is 0.2 μm or less.

16. (Previously Presented) The magnetic detecting element according to claim 1, further comprising electrode layers provided on both side portions of the multilayer film such that a direction of a sensing current magnetic field formed by a sensing current flowing from the electrode layers to the multilayer film coincides with a direction of a synthetic magnetic moment per unit area of the magnetic layers constituting the pinned magnetic layer.

17. (Currently Amended) The magnetic detecting element according to claim 1, further comprising a nonmagnetic metal layer having the same composition as that of the pair of first antiferromagnetic ~~layer~~ layers and provided in the space to make contact with the first magnetic layer, the nonmagnetic metal layer provided in the space being a disordered crystal structure layer thinner than the pair of first antiferromagnetic ~~layer~~layers.

18. (Currently Amended) The magnetic detecting element according to claim 17, wherein a crystal of the first magnetic layer is epitaxial or heteroepitaxial with a crystal of the nonmagnetic metal layer, an end surface of the pinned magnetic layer is open near a surface facing a recording medium, and the nonmagnetic metal layer is made of ~~a PtMn alloy or~~ X-Mn alloy (wherein X is at least one element of Pt, Pd, Ir, Rh, Ru, Os, Ni, and Fe).

19. (Previously Presented) The magnetic detecting element according to claim 18, wherein in the vicinity of an interface with a central portion of the first magnetic layer or over the entire region of the nonmagnetic metal layer, the nonmagnetic metal layer assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface.

20. (Previously Presented) The magnetic detecting element according to claim 18, wherein a thickness of the nonmagnetic metal layer is 5 Å to 50 Å.

21. (Original) The magnetic detecting element according to claim 18, wherein the Pt content of the PtMn alloy or the content of X element in the X-Mn alloy is 55 atomic percent to 95 atomic percent.

22. (Previously Presented) The magnetic detecting element according to claim 18, wherein in the vicinity of an interface with the nonmagnetic metal layer or over the entire region of a central portion of the first magnetic layer of the pinned magnetic layer, at least the central portion facing the nonmagnetic metal layer in the thickness direction assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal

plane represented by a {111} plane is preferentially oriented in parallel with the interface.

23. (Original) The magnetic detecting element according to claim 22, wherein the first magnetic layer of the pinned magnetic layer is made of Co or Co_xFe_y ($y \leq 20$, $x+y = 100$).

24. (Previously Presented) The magnetic detecting element according to claim 18, wherein in the vicinity of an interface with the nonmagnetic metal layer or over the entire region of a central portion of the first magnetic layer of the pinned magnetic layer, at least the central portion facing the nonmagnetic metal layer in the thickness direction assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

25. (Original) The magnetic detecting element according to claim 24, wherein the first magnetic layer of the pinned magnetic layer is made of Co or Co_xFe_y ($y \geq 20$, $x+y = 100$).

26. (Previously Presented) The magnetic detecting element according to claim 18, wherein in the vicinity of an interface with the nonmagnetic metal layer, at least a central portion of the first magnetic layer of the pinned magnetic layer facing the nonmagnetic metal layer in the thickness direction assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface, and in the vicinity of an interface with the nonmagnetic intermediate layer, the central portion assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

27. (Original) The magnetic detecting element according to claim 26, wherein the first magnetic layer of the pinned magnetic layer has a composition comprising Co or Co_xFe_y ($y \leq 20$, $x+y = 100$) near the interface with the nonmagnetic metal layer, and

the first magnetic layer of the pinned magnetic layer has a composition comprising Co_xFe_y ($y \geq 20$, $x+y = 100$) near the interface with the nonmagnetic intermediate layer.

28. (Previously Presented) The magnetic detecting element according to claim 27, wherein the first magnetic layer of the pinned magnetic layer has a Fe concentration gradually increasing in a direction from the interface with the nonmagnetic metal layer to the interface with the nonmagnetic intermediate layer.

29. (Previously Presented) The magnetic detecting element according to claim 18, wherein a value obtained by dividing a difference between a distance of nearest neighbor atoms of the nonmagnetic metal layer and that of a central portion of the first magnetic layer of the pinned magnetic layer in a planar direction parallel to the interface by a distance between nearest neighbor atoms of the first magnetic layer is 0.05 to 0.20.

30. (Original) The magnetic detecting element according to claim 18, wherein the first magnetic layer has a positive magnetostrictive constant.

31. (Original) The magnetic detecting element according to claim 18, further comprising electrode layers made of Cr, α-Ta or Rh and provided on both sides portions of the magnetic detecting element in the track width direction.

32. (New) The magnetic detecting element according to claim 1, wherein a crystal of the first magnetic layer is epitaxial or heteroepitaxial with a crystal of the nonmagnetic metal layer, an end surface of the pinned magnetic layer is open near a surface facing a recording medium, and the nonmagnetic metal layer is made of a PtMn alloy.

33. (New) A magnetic detecting element comprising:

a multilayer film comprising a pair of first antiferromagnetic layers, a pinned magnetic layer, a nonmagnetic material layer and a free magnetic layer, which are laminated in that order on a substrate; and

a pair of magnetization control layers for controlling magnetization of the free magnetic layer,

wherein the pinned magnetic layer comprises a first magnetic layer extending in a track width direction in contact with the pair of first antiferromagnetic layers, a second magnetic layer facing the first magnetic layer in a thickness direction, and a nonmagnetic intermediate layer interposed between the first and second magnetic layers, magnetizations of the first and second magnetic layers being antiparallel to each other;

the pair of first antiferromagnetic layers have a predetermined space in the track width direction so that the pair of first antiferromagnetic layers are in contact with both side portions of the first magnetic layer in the thickness direction;

an electric resistance in the space changes in relation to a magnetization direction of the free magnetic layer and a magnetization direction of the second magnetic layer;

wherein the magnetic detecting element further comprises a nonmagnetic metal layer having the same composition as that of the pair of first antiferromagnetic layers and provided in the space to make contact with the first magnetic layer, the nonmagnetic metal layer provided in the space being a disordered crystal structure layer thinner than the pair of first antiferromagnetic layers;

wherein a crystal of the first magnetic layer is epitaxial or heteroepitaxial with a crystal of the nonmagnetic metal layer, an end surface of the pinned magnetic layer is open near a surface facing a recording medium, and the nonmagnetic metal layer is made of X-Mn alloy (wherein X is at least one element of Pt, Pd, Ir, Rh, Ru, Os, Ni, and Fe); and

further wherein in the vicinity of an interface with a central portion of the first magnetic layer or over the entire region of the nonmagnetic metal layer, the nonmagnetic metal layer assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface.

34. (New) The magnetic detecting element according to claim 33, wherein a thickness of the nonmagnetic metal layer is 5 Å to 50 Å.

35. (New) The magnetic detecting element according to claim 33, wherein the Pt content of the PtMn alloy or the content of X element in the X-Mn alloy is 55 atomic percent to 95 atomic percent.

36. (New) The magnetic detecting element according to claim 33, wherein in the vicinity of an interface with the nonmagnetic metal layer or over the entire region of a central portion of the first magnetic layer of the pinned magnetic layer, at least the central portion facing the nonmagnetic metal layer in the thickness direction assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface.

37. (New) The magnetic detecting element according to claim 33, wherein the first magnetic layer of the pinned magnetic layer is made of Co or Co_xFe_y ($y \leq 20$, $x+y = 100$).

38. (New) The magnetic detecting element according to claim 33, wherein in the vicinity of an interface with the nonmagnetic metal layer or over the entire region of a central portion of the first magnetic layer of the pinned magnetic layer, at least the central portion facing the nonmagnetic metal layer in the thickness direction assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

39. (New) The magnetic detecting element according to claim 33, wherein the first magnetic layer of the pinned magnetic layer is made of Co or Co_xFe_y ($y \geq 20$, $x+y = 100$).

40. (New) The magnetic detecting element according to claim 33, wherein in the vicinity of an interface with the nonmagnetic metal layer, at least a central portion of the first magnetic layer of the pinned magnetic layer facing the nonmagnetic metal layer in the thickness direction assumes a face-centered cubic lattice (fcc) structure in which an

equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface, and in the vicinity of an interface with the nonmagnetic intermediate layer, the central portion assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

41. (New) The magnetic detecting element according to claim 33, wherein the first magnetic layer of the pinned magnetic layer has a composition comprising Co or Co_xFe_y ($y \leq 20$, $x+y = 100$) near the interface with the nonmagnetic metal layer, and the first magnetic layer of the pinned magnetic layer has a composition comprising Co_xFe_y ($y \geq 20$, $x+y = 100$) near the interface with the nonmagnetic intermediate layer.

42. (New) The magnetic detecting element according to claim 33, wherein the first magnetic layer of the pinned magnetic layer has a Fe concentration gradually increasing in a direction from the interface with the nonmagnetic metal layer to the interface with the nonmagnetic intermediate layer.

43. (New) The magnetic detecting element according to claim 33, wherein a value obtained by dividing a difference between a distance of nearest neighbor atoms of the nonmagnetic metal layer and that of a central portion of the first magnetic layer of the pinned magnetic layer in a planar direction parallel to the interface by a distance between nearest neighbor atoms of the first magnetic layer is 0.05 to 0.20.

44. (New) The magnetic detecting element according to claim 33, wherein the first magnetic layer has a positive magnetostrictive constant.

45. (New) The magnetic detecting element according to claim 33, further comprising electrode layers made of Cr, α-Ta or Rh and provided on both sides portions of the magnetic detecting element in the track width direction.

46. (New) A magnetic detecting element comprising:

a multilayer film comprising a pair of first antiferromagnetic layers, a pinned magnetic layer, a nonmagnetic material layer and a free magnetic layer, which are laminated in that order on a substrate; and

a pair of magnetization control layers for controlling magnetization of the free magnetic layer,

wherein the pinned magnetic layer comprises a first magnetic layer extending in a track width direction in contact with the pair of first antiferromagnetic layers, a second magnetic layer facing the first magnetic layer in a thickness direction, and a nonmagnetic intermediate layer interposed between the first and second magnetic layers, magnetizations of the first and second magnetic layers being antiparallel to each other;

the pair of first antiferromagnetic layers has a predetermined space in the track width direction so that the pair of first antiferromagnetic layers is in contact with both side portions of the first magnetic layer in the thickness direction;

an electric resistance in the space changes in relation to a magnetization direction of the free magnetic layer and a magnetization direction of the second magnetic layer;

wherein the magnetic detecting element further comprises a nonmagnetic metal layer having the same composition as that of the pair of first antiferromagnetic layers and provided in the space to make contact with the first magnetic layer, the nonmagnetic metal layer provided in the space being a disordered crystal structure layer thinner than the pair of first antiferromagnetic layers;

wherein a crystal of the first magnetic layer is epitaxial or heteroepitaxial with a crystal of the nonmagnetic metal layer, an end surface of the pinned magnetic layer is open near a surface facing a recording medium, and the nonmagnetic metal layer is made of X-Mn alloy (wherein X is at least one element of Pt, Pd, Ir, Rh, Ru, Os, Ni, and Fe); and

wherein in the vicinity of an interface with the nonmagnetic metal layer, at least a central portion of the first magnetic layer of the pinned magnetic layer facing the

nonmagnetic metal layer in the thickness direction assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface, and in the vicinity of an interface with the nonmagnetic intermediate layer, the central portion assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

47. (New) The magnetic detecting element according to claim 46, wherein in the vicinity of an interface with a central portion of the first magnetic layer or over the entire region of the nonmagnetic metal layer, the nonmagnetic metal layer assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface.

48. (New) The magnetic detecting element according to claim 46, wherein a thickness of the nonmagnetic metal layer is 5 Å to 50 Å.

49. (New) The magnetic detecting element according to claim 46, wherein the Pt content of the PtMn alloy or the content of X element in the X-Mn alloy is 55 atomic percent to 95 atomic percent.

50. (New) The magnetic detecting element according to claim 46, wherein the first magnetic layer of the pinned magnetic layer has a composition comprising Co or Co_xFe_y ($y \leq 20$, $x+y = 100$) near the interface with the nonmagnetic metal layer, and the first magnetic layer of the pinned magnetic layer has a composition comprising Co_xFe_y ($y \geq 20$, $x+y = 100$) near the interface with the nonmagnetic intermediate layer.

51. (New) The magnetic detecting element according to claim 46, wherein the first magnetic layer of the pinned magnetic layer has a Fe concentration gradually increasing in a direction from the interface with the nonmagnetic metal layer to the interface with the nonmagnetic intermediate layer.

52. (New) The magnetic detecting element according to claim 46, wherein a value obtained by dividing a difference between a distance of nearest neighbor atoms of

the nonmagnetic metal layer and that of a central portion of the first magnetic layer of the pinned magnetic layer in a planar direction parallel to the interface by a distance between nearest neighbor atoms of the first magnetic layer is 0.05 to 0.20.

53. (New) The magnetic detecting element according to claim 46, wherein the first magnetic layer has a positive magnetostrictive constant.

54. (New) The magnetic detecting element according to claim 46, further comprising electrode layers made of Cr, α-Ta or Rh and provided on both sides portions of the magnetic detecting element in the track width direction.

55. (New) A magnetic detecting element comprising:

a multilayer film comprising a pair of first antiferromagnetic layers, a pinned magnetic layer, a nonmagnetic material layer and a free magnetic layer, which are laminated in that order on a substrate; and

a pair of magnetization control layers for controlling magnetization of the free magnetic layer,

wherein the pinned magnetic layer comprises a first magnetic layer extending in a track width direction in contact with the pair of first antiferromagnetic layers, a second magnetic layer facing the first magnetic layer in a thickness direction, and a nonmagnetic intermediate layer interposed between the first and second magnetic layers, magnetizations of the first and second magnetic layers being antiparallel to each other;

the pair of first antiferromagnetic layers has a predetermined space in the track width direction so that the pair of first antiferromagnetic layers is in contact with both side portions of the first magnetic layer in the thickness direction;

an electric resistance in the space changes in relation to a magnetization direction of the free magnetic layer and a magnetization direction of the second magnetic layer;

wherein the magnetic detecting element further comprises a nonmagnetic metal layer having the same composition as that of the pair of first antiferromagnetic

layers and provided in the space to make contact with the first magnetic layer, the nonmagnetic metal layer provided in the space being a disordered crystal structure layer thinner than the pair of first antiferromagnetic layers;

wherein a crystal of the first magnetic layer is epitaxial or heteroepitaxial with a crystal of the nonmagnetic metal layer, an end surface of the pinned magnetic layer is open near a surface facing a recording medium, and the nonmagnetic metal layer is made of X-Mn alloy (wherein X is at least one element of Pt, Pd, Ir, Rh, Ru, Os, Ni, and Fe); and

wherein a value obtained by dividing a difference between a distance of nearest neighbor atoms of the nonmagnetic metal layer and that of a central portion of the first magnetic layer of the pinned magnetic layer in a planar direction parallel to the interface by a distance between nearest neighbor atoms of the first magnetic layer is 0.05 to 0.20.

56. (New) The magnetic detecting element according to claim 55, wherein in the vicinity of an interface with a central portion of the first magnetic layer or over the entire region of the nonmagnetic metal layer, the nonmagnetic metal layer assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface.

57. (New) The magnetic detecting element according to claim 55, wherein a thickness of the nonmagnetic metal layer is 5 Å to 50 Å.

58. (New) The magnetic detecting element according to claim 55, wherein the Pt content of the PtMn alloy or the content of X element in the X-Mn alloy is 55 atomic percent to 95 atomic percent.

59. (New) The magnetic detecting element according to claim 55, wherein in the vicinity of an interface with the nonmagnetic metal layer or over the entire region of a central portion of the first magnetic layer of the pinned magnetic layer, at least the central portion facing the nonmagnetic metal layer in the thickness direction assumes a

face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface.

60. (New) The magnetic detecting element according to claim 55, wherein the first magnetic layer of the pinned magnetic layer is made of Co or Co_xFe_y ($y \leq 20$, $x+y = 100$).

61. (New) The magnetic detecting element according to claim 55, wherein in the vicinity of an interface with the nonmagnetic metal layer or over the entire region of a central portion of the first magnetic layer of the pinned magnetic layer, at least the central portion facing the nonmagnetic metal layer in the thickness direction assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

62. (New) The magnetic detecting element according to claim 55, wherein the first magnetic layer of the pinned magnetic layer is made of Co or Co_xFe_y ($y \geq 20$, $x+y = 100$).

63. (New) The magnetic detecting element according to claim 55, wherein in the vicinity of an interface with the nonmagnetic metal layer, at least a central portion of the first magnetic layer of the pinned magnetic layer facing the nonmagnetic metal layer in the thickness direction assumes a face-centered cubic lattice (fcc) structure in which an equivalent crystal plane represented by a {111} plane is preferentially oriented in parallel with the interface, and in the vicinity of an interface with the nonmagnetic intermediate layer, the central portion assumes a body-centered cubic lattice (bcc) structure in which an equivalent crystal plane represented by a {110} plane is preferentially oriented in parallel with the interface.

64. (New) The magnetic detecting element according to claim 55, wherein the first magnetic layer of the pinned magnetic layer has a composition comprising Co or Co_xFe_y ($y \leq 20$, $x+y = 100$) near the interface with the nonmagnetic metal layer, and the first magnetic layer of the pinned magnetic layer has a composition comprising Co_xFe_y ($y \geq 20$, $x+y = 100$) near the interface with the nonmagnetic intermediate layer.

65. (New) The magnetic detecting element according to claim 55, wherein the first magnetic layer of the pinned magnetic layer has a Fe concentration gradually increasing in a direction from the interface with the nonmagnetic metal layer to the interface with the nonmagnetic intermediate layer.

66. (New) The magnetic detecting element according to claim 18, wherein the first magnetic layer has a positive magnetostrictive constant.

67. (New) The magnetic detecting element according to claim 18, further comprising electrode layers made of Cr, α-Ta or Rh and provided on both sides portions of the magnetic detecting element in the track width direction.